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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,700	01/02/2002	Shoriki Narita	2001-1876A	1853
513	7590	10/02/2003	EXAMINER	
WENDEROTH, LIND & PONACK, L.L.P.			ANYA, IGWE U	
2033 K STREET N. W.				
SUITE 800			ART UNIT	
WASHINGTON, DC 20006-1021			PAPER NUMBER	
			2825	

DATE MAILED: 10/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/019,700

Applicant(s)

NARITA ET AL.

Examiner

Igwe U. Anya

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--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-13 and 25-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-11, 13, 25-32 and 34-39 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 12 and 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Nonomura et al. (US Patent 6600137).

3. Nonomura et al. teach a bump forming apparatus comprising a preheat device (90f), a heating device with a bump bonding stage (90h), a cooling device (90g) and a temperature controller (col. 12 lines 54 - 63); a gas supply device to the substrate (col. 11 line 61 – col. 12 line 15), controllers (14, 21) for the gas supply device, a blower and a blower control (col. 13 lines 20 – 50), and a warpage control device (col. 14 lines 4 – 29).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 2 – 5, 8, 9, 13, 25 – 30, 36, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nonomura et al. (US Patent 6600137) in view of Brouillette et al. (US Patent 6056191).

7. The Nonomura et al. reference teaches the features outlined, but lacks a heating and cooling device, which comes in contact with a rear face of a substrate.

8. However, Brouillette et al. teach a bump forming apparatus comprising a preheat device (96), a heating device with a bump bonding stage (98), a cooling device (102),

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wherein the heating and cooling device comes in contact with the rear surface of a substrate (fig. 8).

9. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Brouillette et al. into the Nonomura et al. reference to as conventional in the art .

10. Claims 10, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nonomura et al. (US Patent 6600137) in view of Brouillette et al. (US Patent 6056191), and further in view of Fujita et al. (US Patent 6034578).

11. The Nonomura/ Brouillette et al. reference teaches the features outlined, but lacks a contact member to ground the substrate.

12. However, Fujita et al. teach a bump forming apparatus comprising a contact member for grounding the substrate (col. 3 lines 15 - 47).

13. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Fujita et al. into the Nonomura/Brouillette et al. to prevent electrostatic damage of the substrate.

14. Claims 11, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nonomura et al. (US Patent 6600137) in view of Brouillette et al. (US Patent 6056191), and further in view of Nakazato et al. (US Patent 5601229).

15. The Nonomura et al. reference teaches the features outlined, but lacks an ion generator.

16. However, Nakazato et al. teach a bump forming apparatus comprising an ion generator (55).

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17. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Nakazato et al. into the Nonomura et al. reference to neutralize charges on the substrate.

18. Claims 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nonomura et al. (US Patent 6600137) in view of Brouillette et al. (US Patent 6056191), and further in view of Arai (Abstract of Japanese Patent JP 402203180).

19. The Nonomura/ Brouillette et al. reference teaches the features outlined, but lacks painting a heat sink attached to the cooling device with a far infrared ray radiating paint.

20. However, Arai teaches a cooling apparatus, comprising painting a heat sink attached to a cooling device with a far infrared ray radiating paint (abstract).

21. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Nakazato et al. into the Nonomura/ Brouillette et al. reference to improve conductivity.

22. Claims 6, 7, 12, and 33 are objected to as being dependent upon a rejected claim, but would be allowable if rewritten in independent form.

23. The limitations of the intended use have not been given patentable weight. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987). Prior art considered, but not used in the rejection include Hori (US Patent 6498422), and Katajima et al. (US Patent 6184475).

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24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Igwe U. Anya whose telephone number is (703) 308-3549. The examiner can normally be reached on M - F 8:30am - 5:00pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on (703) 308-1323. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Igwe U. Anya
Examiner
Art Unit 2825

IA

September 12, 2003


MATTHEW SMITH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800